

Density Measurements of Fluoroethane (R161) from 233 K to 400 K at Pressures to 70 MPa

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Fluoroethane (R161, C₂H₅F, 353-36-6) is a potential alternative refrigerant with excellent cycle performance, and it has zero ozone-depletion potential (ODP) and low global warming potential (GWP). But so far density data for R161 are scarce. In this work, the density of fluoroethane was measured from 233 K to 400 K, while pressures ranged from (0 to 70) MPa, by using the present densimeter. The equipment was calibrated with water and toluene at high temperature, and with absolute ethyl alcohol and toluene at low temperature. The experimental data were correlated as a function of pressure and temperature.